



Integrated assessment for effective climate change adaptation in New York State - Chapter 6 - Ecosystems

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Abstract:

Valuable ecosystem services provided by New York's landscapes include harvested products (food, timber, biomass, maple syrup), clean water and flood control, soil conservation and carbon sequestration, biodiversity support and genetic resources, recreation, and preservation of wild places and heritage sites. Ecosystems recharge groundwater supplies and reduce soil erosion by creating catchments that enhance rainwater infiltration into soils as opposed to allowing rapid runoff of storm water into streams. The healthy vegetation of landscapes helps to stabilize and conserve soils, and also sequesters carbon above ground in the standing biomass of trees and perennial plants and below ground in the form of roots and soil organic matter. The diverse flora and fauna supported by New York landscapes play a role in maintaining Earth's biological heritage, and the complex interactions among species benefit society in many ways, such as natural control of insect pests and disease. Genetic diversity will be essential for the natural adaptation of our ecosystems to environmental stresses such as high temperatures and drought that will be exacerbated by climate change. In addition, genetic diversity has potential economic value for new pharmaceuticals, or for organisms or compounds with biotechnology applications.

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Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Special Report on Emissions Scenarios (SRES)

Special Report on Emissions Scenarios (SRES) Scenario: SRES A2, SRES B1

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

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Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Food/Water Quality, Precipitation, Temperature, Other Exposure, Unspecified Exposure

Temperature: Extreme Heat, Fluctuations

Other Exposure: cloud cover

Geographic Feature:

resource focuses on specific type of geography

Freshwater, Mountain, Ocean/Coastal, Rural, Urban

Geographic Location:

resource focuses on specific location

United States

Health Impact:

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

Intervention:

strategy to prepare for or reduce the impact of climate change on health

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Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology:

type of model used or methodology development is a focus of resource

Exposure Change Prediction, Other Projection Model/Methodology

Other Projection Model/Methodology: GFDL, GISS, MIROC, CCSM and UKMO

Resource Type:

format or standard characteristic of resource

Review

Resilience:

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

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Timescale:

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment:

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

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